News release

Signs of man-made global warming in North America

14 November 2003

North America is already being affected by man-made global warming, a new study by a team of international scientists claims today. The scientists, who include Dr Peter Stott of the Met Office in the UK, say human activity is to blame for an increase in North American temperatures during the 20th century.

The study, the first to consider North American warming using data from multiple models, is published in the journal *Science*. Professor David Karoly of the University of Oklahoma led the study, which shows that North American warming, including a 0.8 °C rise since 1970, is being caused mainly by increasing greenhouse gas concentrations due to human activity.

The team examined five of the world's leading climate models and found that when they include the most important human factors believed to affect climate - including increasing greenhouse gases - they accurately simulate the warming observed in North America in the second half of the Twentieth Century.

The models show that natural factors alone, including changes in output from the sun, cannot explain the observed warming.

The new research shows that human-induced climate change is associated with greater warming in the north than the south of the continent; more warming over land than the surrounding ocean and a faster increase in night-time minimum temperatures than daytime maximum temperatures.

Dr Peter Stott said: "All five climate models agree in showing that the warming observed in North America in recent decades can only be explained as a result of increasing greenhouse gas emissions. This adds to the growing evidence that human activity is changing the climate, not just globally, but in specific regions of the world such as North America."

Notes to editors
1. The climate models used in the study are:

- HadCM2 and HadCM3 models developed at the Met Office's Hadley Centre.
- PCM model developed at the National Center for Atmospheric Research and the Los Alamos National Laboratory, USA.
- GFDL R30 model developed at the Geophysical Fluid Dynamics Laboratory, USA.
- ECHAM4/OPYC3 model developed at the Max-Planck-Institut fur Meteorologie, Germany.

2. Global average temperatures have risen by about 0.6 - 0.7 °C over the last 100 years.
3. The Met Office research is funded by Defra and the MoD.

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